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CLINICS.

CLINICAL LECTURES.

Clinical Remarks on Cholera.—By G.
OWEN REES, M.D., F.R.S., Senior Physi-
cian to Guy's Hospital, and Lecturer on
the Practice of Medicine.

GENTLEMEN: The two cases of Asiatic
cholera which I have just read to you pre-
sent no very remarkable features, but as we
have lately had several deaths from the dis-
ease, and full opportunity of studying the
post-mortem appearances, I will relate to
you the results of careful examinations
performed by Dr. Moxon and his assistants.
We have examined in all ten cases dying
collapsed, and in every case we have found
the lungs containing blood, and have ob-
served blood to flow freely from the pulmo-
nary veins as well as from the arteries on
making section of the organs. In several
cases the pulmonary vessels were carefully
tied before the lung was removed, and

more blood was collected from the pulmo-
nary veins than from the pulmonary arteries.
In one case, in which the collapse was very
severe and rapid, and in which the pulmo-
nary vessels had been tied, it was found on
opening the pulmonary veins that three
quarters of an ounce of blood escaped,
while from the pulmonary artery no blood
was obtained until the heart was turned up,
when about an equal bulk of blood came
away from the right side. The left side
of the heart, however, still had half an
ounce of blood left in it. It has been assert-
ed that the blood is arrested in the branches
of the pulmonary artery in persons dying
collapsed in cholera;¹ but we may fairly
regard that statement as erroneous, inas-
much as we have now before us ten con-
secutive cases of fatal collapse, in all of
which the blood was *not* arrested in the
branches of the pulmonary artery, but was

¹ See Dr. G. Johnson's recent work on Cholera.

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found filling the pulmonary veins quite as completely as the arteries; and more than this, it had passed through those veins, and reached the left cavities of the heart.

During a former visitation of cholera I took some pains to familiarize myself with the characters of the disease by volunteering to take the direction of cases admitted into the Bermondsey workhouse, and I then had the opportunity of observing a fact of which I had been previously informed—viz., the existence of cases in which collapse takes place without the occurrence of any great amount of those discharges which appear occasionally to destroy life by exhaustion.

The cases I have here detailed had much of that character about them. It used to be matter of doubt with us whether death occurred by the heart in these patients, or whether death commenced by the brain: in fact, whether the cholera poison, while it had a purgative and emetic action, did not also exercise a direct power over the heart or brain when introduced into the body in large quantity. The action, if we assume the heart attacked, would resemble that of tobacco in some respects.¹ Many of you have suffered from smoking, and had vomiting and purging induced, and at the same time felt very horrible depression, from which, however, you soon recovered. Had you been subjected to the action of a larger dose, you would have perished at once by the heart. The post-mortem appearances we have observed in these cases of cholera prove that the poison in that disease has a powerful influence over the heart, and we may fairly conclude that when it attacks the body in large quantity it kills by a direct action on that organ. Such cases are rare in this country, but in India they are by no means uncommonly met with. The heart is influenced, however, in all cases, dying collapsed, as we can show by our autopsies, the blood passing freely through the lungs, and stopping on the left side of the heart.

As regards the treatment of Asiatic cholera I have but little to say. If we believe the purging and vomiting to result from the action of a poison, which has a depressing effect upon the heart irrespective

of its purgative and emetic qualities, I believe the best thing you can do is to moderate those discharges, and to support the heart by stimuli. Treat the case as one in which an over-dose of elaterium has been taken, and give remedies which will counteract or moderate the action of the poison. Do not be too ready to adopt the notion that the stools and vomited matters of cholera are evacuating a *materies morbi*. The sweats of rheumatism and of ague do not appear to assist in the cure, and we do no good by encouraging them. We the rather try to counteract the poisonous actions by drugs which do not happen to act on the skin, and we certainly can thus cure ague very satisfactorily; and I have not heard that any one presumes in the present day to attack rheumatism with diaphoretics, whatever may be his estimate of the value of the various plans of treatment which have lately been brought before the notice of the profession. But even if we assume that a violent purgative poison is being purged from the system in the cholera dejections, we still have no right to draw the conclusion that the best remedy consists in still further exciting that purging. It appears to me far more reasonable to do all we can to moderate the discharge, and so enable the system to bear the elimination which would then be going on with less violence, and would, therefore, be less suddenly evacuating the serous constituents of the blood from the system. In two of my earlier cases you saw experiments tried, by which I hoped some good might be done. On patient was made to respire nitrous oxide gas, and another inhaled a mixture of oxygen gas and atmospheric air. Curiously enough no effect whatever was produced by these agents—not even a temporary rally, notwithstanding that the patient inspired them freely. The blood-corpuscles appear incapable of exercising their function, owing probably to some chemical action of the poison on the circulating fluid which destroys its attraction for oxygen. It appears extremely probable that the physical condition of the blood assists in producing this decreased attraction, when the purging has been violent and continued, for then the blood is inspissated, and the corpuscles are consequently shrivelled and corrugated.—*Lancet*, December 29, 1866.

¹ There are, of course, many points of difference in the action of these two poisons; one especial point being, that tobacco ceases to purge after the intestinal canal is emptied of its contents.

Case of Disease of the Left Side of the Brain, involving the Corpus Striatum, &c.; the Aphasia of Trousseau; Clinical Remarks on Psychico-Physical Symptoms. (Under the care of Dr. HUGHLINGS JACKSON.)—The following is a case of considerable interest, although the damage to the brain was so widespread that precise evidence bearing on disputed questions as to the localization of "faculties" is not supplied by the autopsy. In this respect it stands in contrast, as Dr. Hughlings Jackson observed, to the remarkable and valuable case Dr. Sanders has related in the *Edinburgh Medical Journal*, March, 1866.

Dr. Jackson thinks there is a danger that students may look upon a bad case as a typical one. A case like the following was, he said, no more significant than that of a certain difficulty of articulation which occurs from disease of the corpus striatum, or of the convolutions near this body. There were to be traced, he believed (from various cases of hemiplegia), defects, increasing in range and diminishing in degree, from those of articulation to incoherence. And it was, he thought, not well to exclude defect of articulation from one end and incoherence from the other end of one continuous series of psychico-physical symptoms. All these various defects were, he believed, disorders in a certain series of cultivated *anatomical possibilities*—of motor and sensory centres ascending in complexity, in *interrelations*, and in *width of associations*. Although we usually speak of these symptoms as defects of expression by motion,¹ it is quite clear that motion and sensation are everywhere interwoven. He attempted a comparison and contrast betwixt double vision and difficulty of articulation, incoherence and spectral illusions. In disorders of the higher complexities and wider associations of motion and sensation, or, as they might be called, expression and perception, it is, he thinks, scarcely proper to separate the two sorts of defects.

Although he has, in his first paper (*London Hospital Reports*, vol. i., 1864), used the expression "faculty of language," he now thinks it better either to avoid the use of such terms, or to make their use so com-

mon as to take away the undue importance they are sometimes allowed to have. And instead of first studying "memory for words," he would advise the student to begin by thinking of the cultivation of a simpler series of sensory and motor processes, such, for instance, as that for remembering an umbrella. It is long before the motory and sensory impressions become so nascent that the umbrella is *unconsciously remembered*—if such a phrase be permissible. Dr. Hughlings Jackson, in this connection, spoke of "innate ideas," and said the only conception he could form of them was as of a series of anatomical possibilities—not nervous centres only—in correspondence with a particular series of so-called "sensation possibilities" in the organism's environment. These congenital anatomical possibilities represented, he supposed, the acquirements of the race, and their particular cultivation—"the faculties"—the acquirements of the individual members of it. The eye-eye might be said to have innate ideas about certain larvæ. To the habits, taste, &c., of these larvæ it is, so to speak, in such exact physical correspondence, that the *faculty* of seeking and getting them out of trunks of trees, of eating and digesting them, &c., is so easily developed, that it may conveniently be called instinctive. There is, of course, an enormous difference in degree in the wide possibilities of the human cerebrum and those narrow possibilities—almost certainties—which are the framework of instinctive actions, or such actions as smiling and the movements of respiration.

The secondary automatic utterances of some of these "speechless" patients appear to show the resemblances betwixt commoner reflex actions and the higher intellectual operations. Dr. Hughlings Jackson's opinions on these last points we have already reported in some detail in our *Mirror*, Feb. 17, 1866. We may also refer to his first paper in the *London Hospital Reports*, vol. i. 1864, p. 454. He there compares such utterances to gross reflex actions. He thinks that a study of Mr. Herbert Spencer's works will show the extreme importance of working at the whole of the physico-psychical symptoms we meet with—in connection with hemiplegia to begin with—from those grossly motor, as defects of articulation, to those purely "mental," as incoherence. He believes that observations on this plan will

¹ Bain says "a suppressed articulation is, in fact, the material of our recollection, the intellectual manifestation, the idea of speech. (*The Senses and the Intellect*, 1855, p. 334.) The italics are in the original.

help to demonstrate the truth of many of the views Mr. Herbert Spencer has put forward in his *Principles of Psychology*. If terms are to be used, or perhaps abused, the extremes may be respectively called ataxy of muscles and ataxy of ideas; or, again, muscular incoherence and incoherence of ideas. Dr. Hughlings Jackson would begin with hemiplegia, as he believes present evidence goes to show that the chief anatomical question is the relation of the disease which damages speech to the motor tract. He still thinks that the points of greatest importance are—1st, the *quantity* of brain damaged; and 2d, the *relations* of the damaged part to the corpus striatum, the point of emission of the orders of the "will" to the muscles. (See our report of his remarks, *Mirror*, Nov. 26, 1864.) Cases of defects of speech are, Dr. Jackson thinks, more valuable to think *from* towards mind than to think *on* as cases of aphasia. They are more definite than other mental defects. From the corpus striatum, inwards and outwards, he would begin his anatomical studies of medical psychology. The vascularity of this region is a most important fact in many ways, and he thinks it not unlikely that arteries have to do with unifying in action parts differentiated in function. He urges strongly that we should from cases of chorea, epilepsy, paralysis, and defects of speech try to learn something towards establishing the laws of the evolution of movement and sensation.

As to the side of the brain affected, Dr. Jackson simply says that the mass of clinical facts show that considerable defect of speech rarely occurs with hemiplegia of the left side. Dr. Wilks writes, in the last volume of *Guy's Hospital Reports*, p. 173: "With regard to the loss of speech with right hemiplegia, I need scarcely say that my observations accord entirely with those of Dr. Hughlings Jackson, although the true explanation of this remarkable circumstance has yet to be discovered." Neither Dr. Wilks nor Dr. Hughlings Jackson goes beyond stating the mere facts of the question. Dr. Jackson has recorded three exceptions to this clinical rule in his first paper on the subject (*London Hospital Reports*, vol. i., 1864), and more than this, he has, he tells us, received from Dr. Long Fox, of Bristol, the report of a case and post-mortem examination which seems to show that disease of Broca's region on the

left side does not always destroy power of speech. Dr. Hughlings Jackson has recorded in the *Ophthalmic Hospital Reports* three cases—quoted in the last volume of *Ranking's Abstract*—of disease of Broca's convolution on the right side, without any defect of speech of any kind.

The almost constant association of loss of speech with hemiplegia of the *right* side has been discovered three times independently—viz., by M. Dax, by M. Broca, and by Dr. Hughlings Jackson. So that, admitting that an exceptional case ought to have very great weight, and with great deference to the "theory in possession," the *clinical peculiarity* cannot be dismissed as a point of no importance.

A man, forty-nine years of age, had a fit on the evening of the 1st of May last; and, according to his wife, the right side of his body was convulsed, and not the left. He came round, she said, in half an hour, but could not speak, and was found to be paralyzed on the right side. From that time it is doubtful whether he ever spoke any word but "yes" to his death on June 29th. There is little to say about the progress of the case. The patient never said anything, and never made any signs. He kept his bed until his death. He passed his urine and motions under him.

The patient was, however, not unconscious, as he ate and drank greedily for some weeks, and would utter the word "yes." As, however, he uttered it whenever any one spoke to him, this fact is not contradictory to the statement that he never *said anything*, for from his mouth the utterance carried no meaning. He had never been able to write; but, when a pencil was offered to him, he took it and scrawled marks on paper as a baby might do. His right arm became rigid; bending it gave him pain, and this caused him to grin and cry out "Oh!" One of the patients told Dr. Jackson that the poor fellow once said "nurse."

The last few weeks of his life the man took less food, became emaciated, and gradually sank exhausted. For some of the facts of the report we are indebted to Mr. Colquhoun, late assistant medical officer.

The autopsy was made by Dr. Hughlings Jackson and by Dr. James Jackson, the resident medical officer. A large dark clot lay in a cavity of softened brain extending from about an eighth of an inch in front of the corpus striatum to the front wall of the

middle cornu. The lateral ventricle was not opened, but the intra-ventricular part of the corpus striatum had been a little undermined towards its centre, and the thalamus to a great extent. The clot did not extend into the crus cerebri.

Before the above examination was made, the pia mater had been taken off and the convolutions observed. The insula looked yellow, and getting off the pia mater tore through into the yellowish softened cavity of the clot. The brain was softened and discoloured up to the gray matter of a great many folds, including the posterior half of the third frontal, lower part of the transverse, the parietal, and part of the second frontal, as well as much of the floor of the fissure of Sylvius. The right side of the brain was firm and perfectly healthy. The medulla was healthy.

The convulsive seizure is, Dr. Hughlings Jackson thinks, a symptom of great interest, especially as showing the loose meaning of the word "epilepsy." It is sometimes discussed whether epilepsy causes cerebral hemorrhage or cerebral hemorrhage epilepsy.—*Lancet*, Dec. 1, 1866.

HOSPITAL NOTES AND GLEANINGS.

Complete Transverse Division of the Urethra by a Kick of a Horse on the Perineum; Perineal Section; Recovery.—G. C.—, aged fourteen, a fine healthy youth, was admitted into Guy's Hospital, at midday on June 28th, 1866. About twenty-four hours previously a horse kicked him in the perineum. He did not feel much pain at the time, and walked home, a distance of a quarter of a mile, immediately afterwards. He then went to bed. A medical man visited him in the evening, and endeavored to pass a catheter, but without success. Warm fomentations were then applied to the abdomen, and some blood flowed from the urethra. In the night he felt pain in the loins. Next morning, having passed no urine since the accident, he was brought to the hospital.

On admission, the perineum was slightly swollen and ecchymosed; the bladder, much distended, reached far above the pubes. Unsuccessful attempts were made by Mr. Birkett to pass a catheter into the bladder, the point of the instrument being arrested in its course just beneath the pubic arch. Con-

siderable hemorrhage from the urethra accompanying these gentle attempts to pass a catheter led Mr. Birkett to the conclusion that the canal was torn; more particularly, too, as the instrument seemed disposed to take an erratic course, and its point could be felt too distinctly in the perineum. He decided, therefore, to open the perineum. Chloroform was given; and after another unsuccessful attempt to introduce a flexible catheter, a grooved staff was passed down to the perineum, and an incision made along the raphe from the posterior edge of the scrotum to the anus for about an inch and a half. Some coagulated blood was turned out from the depths of the wound, when the urethra and its surrounding textures were found completely divided transversely. By compressing the bladder over the pubes, urine was made to issue from the posterior division of the ruptured canal, which was hanging into the wound, in consequence of its being detached from the corpora cavernosa, for about a quarter of an inch. The line of rupture in the urethra was not perfectly transverse, but ran obliquely across from below anteriorly to above at the back part; and, in consequence of the contractility of the tissues, the two ends of the divided canal were fully half an inch apart. Mr. Birkett passed a flexible catheter along the anterior division of the urethra, out at the perineal wound, and thence through the posterior division into the bladder; he then brought together the two ends of the ruptured urethra upon the catheter, and tied them with one silk suture introduced in the middle line of the under surface. The urethra was not touched by the knife during the operation. The flexible catheter was fixed in the bladder.

June 30th (second day).—All the urine passed through the catheter; none by the perineal wound. The skin around the wound was healthy, and the sides of the wound were bathed with pus. He slept and ate well, and had no pain.

July 6th (eighth day).—Catheter removed from urethra; it was slightly coated at the end with phosphates.

7th (ninth day).—Since the removal of the instrument he had made water four times; it mostly passed in the proper direction, but a little escaped at the perineal wound (less latterly than at first). The urine first passed was turbid and contained albumen.

9th (eleventh day).—Urine escaped freely

through perineum; its passage unaccompanied with smarting. The urine was not albuminous.

12th (fourteenth day).—Made water easily; very little passing through perineum.

26th (twenty-eighth day).—The quantity of urine coming by the perineum had gradually decreased until, during the three preceding days, there had not been any escape in that direction. The wound was healed. He had never had a bad symptom; and he left the hospital to-day, having been under treatment twenty-eight days. The suture was never seen, although it was probably cast off in the discharge.

November 8th.—He called on Mr. Birkett to-day. He passed a full stream of urine without the slightest difficulty; and there seemed to be no symptom of contraction of the urethra, although three months had elapsed since the perineal wound healed.—*Lancet*, December 22, 1866.

MEDICAL NEWS.

DOMESTIC INTELLIGENCE.

The Yankee Race Dying Out.—Dr. NATHAN ALLEN, of Lowell, Mass., chairman of the Committee on Statistics of the Board of State Charities of Massachusetts, has been for years making patient investigations in regard to the increase of population in the State just named and the conclusions at which he has arrived are very remarkable and well worthy of further investigation. Some of these conclusions are given in the third report of the Board of State Charities from which we extract the following statements which seem to show that the native population is steadily decreasing and is being replaced by foreigners.

"In order to understand correctly the increase and the changes in our population, the history and number of those of a foreign origin must be carefully noted. The rapid increase of this class, and the changes consequent upon its future growth, afford themes which deserve the most grave consideration.

"The census at different periods, returns this element as follows: 1830, 9,620; 1840, 34,818; 1850, 164,448; and 1860, 260,114. Here within 30 years, commencing with less than 10,000, we have an increase by immigration alone to over 250,000. It

should be observed that this does not include the great number of children born in this State of foreign extraction. The first Registration Report that discriminated in the births as to parentage was that of 1850, returning 8,197 of this class, and 3,278 mixed or not stated. In 1860, the number had increased to 17,549, besides nearly 1,000 not stated. In 1850, the foreign births were only one-half as many as the American, but they continued to gain every year afterwards upon the American till 1860, when they obtained a majority. This year will ever constitute an important era in the history of Massachusetts when the foreign element, composing only about one-third part of the population of the State, produced more children than the American. Since 1860 they have gained every year upon the American, till in 1865 their births numbered almost 1,000 more than the American.

"From 1850 to 1860, the Registration Reports make the foreign births 137,146, besides 18,598 not stated, a large portion of which undoubtedly was of foreign origin. Then the number of such births from 1820 to 1850 cannot be definitely stated, but, judging by the amount of foreign population at this period and its fruitfulness at other times, the number of births would certainly come up to 50,000 or more. Now what proportion of those of this character born from 1830 to 1860, might have been living when the census of 1860 was taken, we cannot tell; all that can be determined upon the subject is only approximation to the truth. It is estimated where the mortality is largest that only from two-fifths to one-half of all those born—including both the city and country—live to reach adult life. After making allowance for this fact and considering that by far the largest proportion of these births occurred in the year, immediately preceeding 1860, we think it perfectly safe to say that there must have been over 100,000 persons of this class included in the United States Census returned as native born in Massachusetts, or in other words as American. This fact would change materially the census report. It would take at least 100,000 from the American portion—970,000—and add 100,000 to the 260,000 reported as born in foreign countries. This result makes at the time almost one-half of our population strictly of a foreign origin!"

In regard to the distribution and employment of the foreign population, Dr. Allen remarks: "This class of people do not all live in the cities. They are found scattered in almost every town and neighborhood in the commonwealth. The men came first to build railroads, to dig canals, cellars, and aid in laying the foundation of mills, dwellings and public buildings. Then came the women to act as servants and domestics in families, as well as to find useful employment in shops and mills. Then came parents, children, and whole families. To such an extent have they increased by immigration and birth, that they now perform a very large portion of the domestic service in all our families; they constitute everywhere a majority of the hired labourers upon the farm; they are found extensively engaged in trade and mechanical pursuits, particularly in the shoe business, and compose by far the largest proportion of all the operatives in the mills.

"Within a few years, they have become extensive owners of real estate. In the cities they have built or bought a very large number of small shops and cheap dwellings, and in the rural districts as well as in the farming towns throughout the State, they have purchased very extensively small lots of land, small places, and old farms partly run out; and (what is significant) they pay for whatever real estate they buy, and are scarcely ever known to sell any. In fact, it has come to such a pass, that they perform a very large proportion of the physical labour throughout the State, whether it be in the mill, or in the shop, whether in the family or upon the farm. As far as muscular exercise is concerned, they constitute 'the bone and sinew' of the land, and it would be very difficult, if not impossible to dispense with their services. Every year the Americans are becoming more and more dependent upon them for manual labour, both in-doors and out-doors."

"Should the same ratio of increase from 1830 to 1860 continue 20 or 30 years longer, a majority of the population of the State, within that time, will be composed of those of a foreign origin."

Library of the College of Physicians of Philadelphia.—We would again call the attention of the Fellows of the College to the fact that this valuable and extensive

Library, embracing nearly thirteen thousand volumes, is daily open from 11 o'clock A. M. to 3 P. M.

The increase of the Library during the past year has been very large, amounting to about two thousand five hundred volumes. The Hall of the College being fire-proof, Fellows of the College who possess books to which they have seldom occasion to refer, will act wisely in sending them to the College, where they will be securely kept, be readily accessible when wanted, and their usefulness be far more extended than in a private collection.

Mott Memorial Library.—The widow of the late Dr. Valentine Mott has purchased and fitted up in the city of New York, a house in which she has deposited the medical library and surgical instruments of her deceased husband. This she has placed under the charge of a board of Trustees, with the design that it shall be a monument to one who has been justly styled the Napoleon of American Surgery.

A more judicious mode of perpetuating the memory of her husband, or a more graceful tribute to the profession which he illustrated could scarcely have been devised.

Atlanta Medical College.—The annual circular of this Institution for 1867 contains the names of 82 matriculants, comprising the class during the session of 1866, and of 35 candidates, upon whom the degree of M. D. was conferred at its close.

FOREIGN INTELLIGENCE.

Prevention of Pyæmia.—The Surgical Society of Paris has lately been discussing this subject, which was brought before the members by Messrs. Labat (of Bordeaux), and M. Marc Sée (of Paris). To prevent pyæmia, the latter proposes to dress wounds with alcohol in order to coagulate the decomposing fluids which, by infiltration, cause pyæmia. The former author, instead of a local agent, advocates ergot of rye administered internally, and thinks that, acting primarily upon the blood, he can prevent the poisoning of this fluid by pus. In the course of the discussion, M. De Paul, one of the leading obstetricians of Paris, made a statement worthy of record. He said

that he had instituted experiments to test the value of ergotine in midwifery, and that from these he concludes that ergotine can in no way take the place of the ergot. He never uses the former in languid uterine action.

A New Way of Treating Cancerous Tumours.—The Italian medical journal *L'Ippocratico*, quoted by *L'Imparsiale* of the 16th inst. (November), mentions a mode of procedure, proposed by Dr. THIERSCH, to modify or remove cancerous tumours, whether ulcerated or not. He starts from the supposed action of medicinal agents in the nascent state, this action having a great power of modification without exciting either inflammation or gangrene. He therefore injects the carcinomatous tumour and the sound parts in its immediate vicinity with a solution of nitrate of silver, and accelerates the formation of chloride of zinc by injecting, soon afterwards, water holding common salt in solution. With the subcutaneous syringe Dr. Thiersch used, in the case of a tumour of the face, the first salt of the strength of 1 to 5000 of water, the chloride solution being 1 to 2500. These injections were repeated about twenty times along the margin of the tumour, half an inch from one another. About fifteen more were used in a vertical direction, and more upon the nodosities of the tumour itself. Ten minutes afterwards the common salt injections were made in the interspaces of the silver injections. Stronger solutions were used for several days, at intervals of twenty-four hours. Suppuration was soon discernible. At last healthy granulations appeared. Solutions still stronger were now injected, but the patient unfortunately had pyæmia. It is not said whether the result was fatal, but the author holds that his method should be extensively tried.—*Lancet*, December 22, 1866.

Syphilis extensively propagated by Vaccination in France.—In a western department of France (Morbihan) some villages have been the theatre of severe syphilitic symptoms upon more than thirty children, who had all been vaccinated from a little girl with six punctures on each arm, the child herself having been operated upon from another who had been vaccinated from lymph preserved between two plates of glass obtained from the authorities. This mis-

fortune created so much sensation that the Academy of Medicine of Paris sent down two Commissioners, Messrs. Henry Roger and Depaul. These gentlemen have just presented their report to the Academy, and this important document ends with the following considerations: 1. Several of the children whom we have examined were undoubtedly suffering from secondary syphilis. 2. We see no way of explaining this contamination but by vaccination; and we are confident that the cases we have seen were really syphilis engendered by vaccination. 3. As to the origin of the virus, it is very probable that the poison is traceable to the lymph, preserved between two pieces of glass, supplied by the authorities. As primary symptoms were also observed among the children, M. Ricord begged the commissioners to insert that fact in their report, which these gentlemen agreed to do. Here we unfortunately have again repeated the sad occurrences which took place at Rivalta (Italy) a short time ago.—*Lancet*, Dec. 15, 1866.

Absence of Urethra and Clitoris.—M. SURMAY mentions, in *P'Union Médicale* of the 22d instant, the case of a little girl, aged fourteen, who was brought to him on account of retention of urine. The labia majora and minora were incomplete, the urethra and clitoris completely wanting, and the constant dribbling of urine partially prevented by a protrusion of a portion of the vesical mucous membrane. Though the author diligently consulted books on the subject, he found no description of a similar case, except in Petit's surgical works, who mentions two analogous cases.—*Ibid*.

Regeneration of the Spleen.—M. PHILIPPEAUX contends that when the spleen has been completely removed from the body of mammals, and then replaced, it soon assumes its former characters and position. He records numerous experiments which strongly support his conclusions, and gives a detailed account of the nature of the operation. The spleen, having been removed from the abdomen, is placed upon the table, measured with a pair of compasses, and then introduced into the abdomen. In animals which were killed at periods of four, five, ten, and fifteen months subsequent to the operation, the spleen was found engrafted upon various parts of the peritoneum, but

oftenest upon the left side and near the left end of the stomach. Careful examination showed numerous minute vessels, which passed from the hilum of the spleen into the substance of the mesentery. These, says M. Philippeaux, were evidently the vessels through which the circulation in the spleen was re-established.—*Lancet*, Dec. 15, 1866, from *Comptes Rendus*, vol. 63.

Cause of Anencephalic Monsters.—A very important essay on this important physiological question has been written by M. C. Dareste. Two theories have hitherto been entertained, and strangely enough, these two, though apparently conflicting, have been shown by M. Dareste to be strictly true. Haller and Morgagni believed that the cause lay in the existence of a dropsey of the spinal cord, which tended to destroy the nervous substance. Geoffroy St. Hilaire, on the other hand, looked upon the cause as an arrest of development. Both hypotheses are, in some measure, correct, according to the results of M. Dareste's inquiries; but Haller and Morgagni erred when they said that the effusion destroys the nervous substance. In point of fact, M. Dareste has discovered that the effusion appears before the nervous substance, and thus hinders its development. But this distinguished physiologist has gone a step further than his predecessors in demonstrating that the effusion in question is the result of an extremely anæmic condition, which is the first unusual symptom that presents itself. In some instances he has seen this dropsey affect both the true and false amnion, and occasionally extend even to the whole of the tissues of the body.

The Cholera Epidemic in London.—One death only from cholera was registered in

London last week—that of a child in the district of Poplar—and thus, so far, at least, as the present year is concerned, we may safely assume that we have arrived at the vanishing point of an epidemic which, in twenty-three weeks, has caused the deaths of 5548 persons within the area of the metropolitan districts. Whether it is really dead, or only sleeping, the wisest amongst us cannot know. While, therefore, we felicitate ourselves upon the relief which its departure affords, it is most earnestly to be hoped that an eye may be kept on future possibilities, so that, if the unwelcome guest return, we may not be, as it has so often found us, unprepared. Our foe works, to some extent, in the dark. We know generally the conditions which give us the advantage, but there are powers of combination, and forces brought into play against us whose operation we do not fully apprehend; hence the issue, which often appears almost purely fortuitous, is, after all, the result of design.

In 1849 the estimated population of London was 2,286,635, and the deaths in the whole of that year from cholera were 14,137, from diarrhœa 3899, and from cholera and diarrhœa together 18,036. In 1854 the population had increased to 2,504,300, and the deaths from cholera in 52 weeks were 10,738, from diarrhœa 3147, and from both diseases 13,885. In 1866, out of an augmented population of 3,037,991, the deaths from cholera in 23 weeks were 5548, from diarrhœa 2692, and from both diseases 8240.

The remarkable difference in localization which the recent epidemic exhibits compared with those of 1849 and 1854, will be appreciated in the subjoined calculated ratios of deaths to population:—

Proportional number of Deaths to 10,000 living.

	CHOLERA.			DIARRHŒA.			CHOLERA AND DIARRHŒA.		
	1849.	1854.	1866.	1849.	1854.	1866.	1849.	1854.	1866.
LONDON . .	61.8	42.9	18.3	17.1	12.6	8.9	78.9	55.5	27.2
West districts	33.8	50.8	3.6	13.4	10.9	7.2	47.2	61.7	10.8
North "	20.4	14.7	6.1	14.4	9.6	8.0	34.8	24.3	14.1
Central "	44.0	16.4	9.2	14.0	10.1	10.1	58.0	26.5	19.3
East "	66.0	29.3	64.3	18.8	13.3	13.6	84.8	42.6	77.9
South "	120.1	86.8	8.1	22.0	16.9	6.7	142.1	103.7	14.8

In applying these results we must not lose sight of the lesser duration of the epidemic of 1866; for instance, in 1849 and 1854 the deaths for the whole year are

taken, while in 1866 the period of observation is less than half a year, and therefore the *annual* mortality rate from cholera in 1866 for London differs little from that of 1854. The Western districts show a decline on the former cholera death rates, which is most gratifying in so far as it is due to increased vigilance in sanitary matters, but the change in the relative positions of the East and South districts is undoubtedly the great fact which the Registrar-General's returns disclose in connection with the recent epidemic. If the cholera had extended over 52 weeks this year instead of 23, the mortality in the East districts would have been more than twice as great as in 1849, and nearly six times as great as in 1854; while the districts South of the Thames, which were visited so exceptionally in both the former epidemics, have this year, save in one or two instances, been singularly free from the disease.

Whatever diversity of opinion there may be about the causation of cholera—whether air or water is the chief agent for its propagation—few, we imagine, will differ with the Registrar-General in the remarks with which he closes his review of its history as written in the records of his department:—

"In London cholera has not only been less fatal than it was in previous epidemics, but its fatality has been reduced almost to insignificance in several of the districts by the mere force of hygienic science, before which the destroyer has retreated step by step; never, however, losing an opportunity of asserting its full power wherever negligence or ignorance presented an opening, either in England or in the cities of the Continent of Europe.

"Cholera obeys certain laws, and the knowledge of those laws renders its subjugation in Europe practicable, provided all the people as well as the government will co-operate in the work. This, it may be hoped, will be done, and it only remains for the metropolis of this empire to hold its own, and to keep the lead."—*Med. Times and Gazette*, Dec. 15, 1866.

Notes on the Investigation of the Action of Electricity on Muscles and Centres.—A full knowledge of anatomy is absolutely necessary for the proper application of medical electricity. Moreover, it is desirable that the practitioner should know as much as can be known of the medical physiology

of muscles and centres for muscles. A great deal has yet to be done in ascertaining the precise mode of action of electricity on muscles paralyzed by disease of nerve trunks and centres, and in experimenting it is most desirable to obtain "known quantities" on which to experiment. Let us illustrate by a common form of local palsy—paralysis of the portio dura. It may be fairly said that this symptom is but an incident. To say that a patient has paralysis of the portio dura is almost as loose as it would be to say he has a cough. It may mean very much or very little. It may pass off without treatment, or it may never pass off at all. We have seen it in infants and in old men. It may be due to disease in the pons Varolii, to tumours within the skull, to disease of the petrous bone, and to swelling of the parotid gland. The nature of the disease damaging this nerve-trunk is most various. When in the pons Varolii it is frequently blood-clot, but sometimes tumour. We have seen it due to syphilitic disease of the pia mater, fracture of the base of the skull, inflammation of the mucous membrane of the tympanum, to external wounds, and to many other causes. We may just add, however, that in our experience this form of paralysis has rarely seemed to have been caused by exposure to cold, although it is very frequently attributed to that cause by the patient. We would suggest, then, that some cases of paralysis of the portio dura in which, from the presence of paralysis of the sixth nerve and hemiplegia of the opposite side of the body—all coming on suddenly together—there can be no doubt the disease is central, and other cases in which the nerve-trunk has been damaged from external injury, should be taken for first trials of the effects of galvanism on muscles. It would be interesting in this way to compare and contrast precisely the behaviour under different kinds of electricity of muscles paralyzed by disease of a nucleus and by disease of a nerve-trunk. We must carefully bear in mind—we speak of recent cases—that when paralysis of the muscles supplied by the portio dura nerve passes off, we cannot be sure that it has passed off because galvanism was used. For we know that paralysis of the portio dura from central disease—we do not say from disease of its nucleus—will sometimes pass off without any particular treatment. Indeed, we scarcely

know how it will be possible to estimate precisely the therapeutical effect of galvanism in recent cases of paralysis due to central disease. The persistence of hemiplegia from disease of the corpus striatum seems to be nearly altogether a question of the size of the clot effused, and not a question of the doctor's therapeutical skill. If the clot be a very small one, the patient will rapidly recover; if a very large one, he will certainly remain paralyzed. Before passing to further illustrations, we may remark that each of the various forms of spasm of the face, and they are not few, should be carefully considered in an inquiry as to the therapeutical and physiological effects of galvanism.

We think that the muscular region which the corpus striatum commands is one in which it is most desirable that experimental investigations should be first made, with a view to obtaining a more complete knowledge of the physiological action of galvanism on muscles in various states. Disease of the corpus striatum is frequent, and causes hemiplegia—from numbness to paralysis of the limbs, the arm being frequently quite motionless. But there are other conditions of muscles of this region—the region of the limbs our chief voluntary organs—viz., irregular movements (chorea), and convulsive spasms (epileptiform seizures). One physician has expressed his conviction that to disease of the corpus striatum or of convolutions near it unilateral chorea is due, and that to disease of the hemisphere near the corpus striatum, and perhaps of this body itself, certain epileptiform fits are owing. At all events, the various conditions of muscles and muscular groups of this region—let us limit ourselves to the arm, which seems to be the limb over the intelligent movements of which the corpus striatum chiefly presides—should be compared and contrasted. For besides permanent paralysis, continuous or intermittent irregular movements, and occasional spasm of the muscles of the limbs on one side (which symptoms might be called hemiplegia, hemichorea, and hemiepilepsy), there are to be found other conditions which have obtained special names—e.g. the contracture of the arm and leg (which form of muscular disorder seems to occur only in the hemiplegia of children), tremor, and rigidity. Besides, there are to be met with a few cases in which spasms, jerks, irregu-

lar movements, and contractures are so varied or mixed that it is not easy to put in words what sort of muscular disorder is the most striking phenomenon. We should, however, study from health all variations of muscular life, without undue adhesion to any views and theoretical explanations the terms epilepsy, chorea, and contracture may be supposed to carry.

It seems not improbable that age has much to do with the condition of muscles which enervation of the corpus striatum or its region brings about. With few exceptions profuse irregular movements are not seen before voluntary movements are learned, nor after they have been fully acquired. Then, as we have said, contracture (which seems to be halfway betwixt irregular movements and spasm) very rarely begins after early childhood. These differences are possibly due to incomplete physical development—the young corpus striatum not being sufficiently equilibrated with the rest of the organism. But the exact position, nature, and degree of the disease must have much to do also in determining the sort of muscular disorders of the limbs in young children. But on most of these points, although there are speculations, we have no positive information. We can only study with precision the outward phenomena—the muscular disorders in what we may safely call the limb region, if not the corpus striatum region. We may almost say that from paralysis, through chorea, to occasional spasm, there are different degrees of muscular life in time—first time in the common sense of the age of the patient, and, second, in the sense of the time of the whole organism. The one may be supposed to account for the differences in the nature of the permanent condition of muscles, and the other for variations of movement from almost constant rigidity through nearly continuous irregular movements to occasional attacks of spasm—attacks sometimes occurring with an approach to periodicity easily stated in solar time. In one sense we live in time; but in another, time—the relation of nutritive changes of tissues to the possibilities of the functions of organs—lives in us. No doubt, the movements of the muscles in chorea, epilepsy, etc., are rough indications of the degrees of changes in the organ impaired in relation to the general nutritive changes of the body. We can, however, at present

only state roughly how the movements vary by hours, days, or weeks.

This part of the inquiry would be chiefly physiological. In cases of occasional unilateral convulsive seizures, the muscles could rarely be caught by the operator in the midst of their fault. Yet, in some cases of unilateral epileptiform seizures, the patient is subject to local spasms—so called warnings or partial fits—which last for a long time—e.g., half an hour. Then it is believed by some that the galvanism influences the nutrition of the centres, on affection of which centres the disordered muscular actions depend.

Now, of course it is undesirable to have to make physiological experiments on muscular disorders when we are not satisfied—for most people do not admit that the seat and nature of the changes in cases of chorea and epilepsy are known—as to the nature and place of the central disease. But let us estimate so far as we can, taking health—not chorea, contracture, epilepsy, etc.—as a standard, the varying nature of muscular disorders, according to region affected, the age of the patient, etc., the time of the part and the time of the organism, and thus we shall get a valuable, although may be a provisional, kind of order for our investigations of electrical physiology. This can be done without any theory. It may give order to our work to give names (if we can do so without sacrificing too much freedom) to the different states of muscular disorders—(1) in region affected, (2) in evolution of movement, (3) in age, and (4) in the changes of movement in time, etc. In most of the cases of disordered functions of muscles just spoken of, the damage to structure is slight, but probably wide-spread. Cases of palsy, loss of function, in which nervous structure is coarsely and largely damaged, are met with in plenty, as in hemiplegia in adults. In adults, too, we may often infer the condition of nerve-tissue on which hemiplegia depends—at all events, betwixt the two things, tearing up by blood-clot, and softening by plugging of the middle cerebral artery.

So far we have spoken of cerebral centres, but the rest of the arm-nervous-system—from the corpus striatum to the ending of nerves in muscles—presents an excellent field for studying at once the evolution of movement and the action of galvanism on

muscles paralyzed, or impaired, by damage at various points of this nervous system. We often speak of paralysis of particular muscles when probably we should speak of loss or impairment of power to execute complex movements, in which movements single muscles are only partly engaged.

The physiological effects of galvanism on muscles paralyzed by section of nerve-trunks, when sensation and motion are both lost together, can often be tried in the arm, as the ulnar nerve is not unfrequently divided by accident. This we would call a geographical paralysis. Then in the arm we meet—besides such random mischief as division of the ulnar nerve-trunk leads to—defect in a higher evolution of motion, a loss of a *physiological movement*, such as one for moving the shoulder. This sort of paralysis can rarely be shown to be due to defect in any one nerve-trunk, on the peripheral side of the brachial plexus at least, and seems to us to be most probably owing to disease of some centre, possibly vasomotor, in the spinal marrow itself; yet it may be due to disease of a nerve-trunk of or above the brachial plexus; but, strange to say, there is no evidence whatever, so far as we know, to show what effect section of any one of the spinal nerve-roots, or of one of the cords of the brachial plexus, would have on the movements of the limb. This kind of knowledge, moreover, it is most desirable to obtain, and, to get it, it is needful for the student of the evolution of movement to work with the medical electrician at all sorts and degrees of local loss of power of the arm. The application of galvanism might enable us to decide more certainly on the exact degree and place of paralysis of muscles. As a matter of speculation, one would suppose that the higher disease was placed in the increasing complexity of movement; the more general and the wider would be the loss of power in the limb. The corpus striatum would seem, from pathology, to be made of physiological units, each representing the whole of the movements of the limbs.

We trust these remarks may not be out of place. It is not by merely arranging our work into sections that progress is made. Each differentiated part of the organism is—to use again the term we have borrowed from Spencer—a physiological unit; and thus each doctor, although differentiated to be an electrician, an ophthalmologist, a

laryngoscopist, should be, in Spencer's sense of the term, a physiological unit of the whole organism of medical science.

It is quite clear that to obtain scientific evidence to show what medical electricity can do, it is a mere waste of time to apply galvanism to paralyzed muscles without careful consideration as to the seat of the disease and as to the nature and degree of the damage to the nervous centres. In this, as in therapeutical investigation, our anatomy and physiology must largely influence us. The wide meaning of facial paralysis from damage to the portio dura nerve fully illustrates this. It is quite true that in not a few cases of this form of local palsy we cannot get to know to what it is due. We must, then, be content to be ignorant, and seek for instances in which the cause is less doubtful. From a broader basis we must study how *nerve-trunks* can suffer, and this study is best begun by watching changes—the two kinds of atrophy—in the optic disk. We may then with more certainty consider how *particular* nerve-trunks are damaged from the peculiarities of their geographical position and functional connections.—*Med. Times and Gaz.*, December 1, 1866.

Action of the Electric Current upon Ozonized Water.—"Cosmos" notices some curious experiments by Prof. HORN of Munich. On sending the current from an electric machine, the plate of which was more than three feet in diameter, through a glass of ozonized water, it was found to be saturated with some compound of cyanogen. This water if drank produces all the symptoms of cholera. This disease, which is produced artificially, is instantly stopped by drinking water saturated with ozone.

M. Fremy's Experiments upon the Crystallization of Insoluble Compounds.—It occurred to the author that if he could effect in a very slow manner the precipitations and decompositions which, in the laboratories, produce amorphous bodies, owing to the instantaneity of their formation, he might succeed in obtaining them in the crystalline form. In some experiments the two bodies were introduced into liquids of different density containing gum, sugar, gelatine, &c.; in others, the phenomenon of endosmose was had recourse to; in other trials, wood or unglazed vessels were em-

ployed, the result in almost all cases being that he obtained in the crystalline form such insoluble bodies as sulphate of baryta, sulphate of strontia, carbonate of baryta, carbonate of lead, sulphate of lead, oxalate of lime, borate of baryta, chromate of baryta, magnesia, and several sulphides.—*Med. Press and Circular*.

Samandarine.—The poison of *Salamandra maculata* is obtained in the form of a milky liquid by grating the posterior parts of the head and back of the animal on the edge of a spoon or the back of a scalpel. The liquid which exudes is white, viscous, strongly alkaline, and bitter; and contains a quantity of globules which disappear when alcohol, ether, and acetic ether, are added. The symptoms provoked by the absorption of samandarine, or of the secretion itself, succeed each other in about half an hour in the following order: anxiety, trembling, epileptic convulsions, opisthotonos, and death. Dr. Zalesky's method of isolating the poisonous body is given in the *Bulletin of the Chemical Society of Paris*, 1866, p. 344. Its composition is, carbon, 34; hydrogen, 60; nitrogen, 2; oxygen, 5.—*Lancet*, Nov. 17.

Diminished Fruitfulness of Marriages in France.—M. HUSSON has just made a statement at the Imperial Academy of Medicine to the effect that formerly five children might be counted for each marriage in France; at the commencement of the century that number fell to four; and now each marriage hardly produces three children in the country, and two in Paris.

Living (?) Organisms in Chalk.—Strange as it may appear, M. A. BÉCHAMP, one of the most celebrated of French chemists, alleges that chalk contains an abundance of minute living cellular organisms, and in proof of this assertion, he points to the known fermenting power of chalk, and offers also microscopic evidence of the presence of these minute bodies. Chalk is known to contain fossil foraminifera in such large quantities that 100 grammes would furnish as many as 2,000,000 specimens. But, says M. Béchamp, in addition to these, chalk undoubtedly contains other organisms more minute than any of the infusoria, and these, though perhaps millions of years old, are still living. Take, he says, from the

centre of a piece of chalk a portion of the substance, crush it, and mix it with pure distilled water, and examine it with a high microscopic power, and you will see numerous minute brilliant points exhibiting a peculiar trembling movement. That this movement is not what is termed *Brownian*, M. Béchamp considers to be proved by the facts: (1) That these particles, when isolated, act as powerful ferments; and (2) that when analyzed they are found to consist solely of carbon, hydrogen, and nitrogen. We must confess that M. Béchamp's views startle us, and we should like to see them corroborated. All microscopists are familiar with peculiar trembling movements of the particles of matter contained in the cavities of crystals. Further, we should like to know how M. Béchamp contrived to separate these wonderful organisms, which he terms *microzyma creta*, from the organic remains of the surrounding foraminifera. A living organism as old as the chalk formation is certainly an eighth wonder of the world.—*Lancet*, Dec. 5, 1866.

Smallpox in London.—It is not pleasant to know that the Smallpox Hospital is full to overcrowding, and that variola is on the increase in different parts of London. St. Giles's is now suffering, and a serious outbreak is reported in the parish of Marylebone; it is, however, at present confined to a very circumscribed area in the district of Christ Church, and is spreading chiefly in consequence of the overcrowded state of the locality. Some of the worst cases (and about sixty or seventy have already been reported) have occurred in damp, dark back kitchens, in which perhaps a man, wife, and four or five children have been compelled to live.—*Lancet*, Jan. 5, 1867.

Popular Lectures.—Prof. HUXLEY is giving a course of lectures to workmen at the Geological Museum in Jermyn-street; the subject being Birds and Reptiles. The fee for the course of six is sixpence. The lectures hitherto given have been most fully attended.—*Lancet*, Nov. 17, 1866.

Invention of the Guillotine.—The history of this invention has, it seems, been wrongly told, and M. DUBOIS, Perpetual Secretary of the Academy of Medicine, in a discourse delivered before that learned body on the last days of another celebrated perpetual

secretary, Antoine Louis, of the Academy of Surgery, furnishes the correct version. The physician Guillotin, the supposed inventor of this instrument of punishment, was, as one of the members of the Constituent Assembly, fully impressed with the doctrines of equality which prevailed at that time, and among other motions he made in that body in furtherance of these was one on the mode of performing capital punishments. It was contrary to the spirit of the day that, as hitherto had been the case, decapitation should be reserved for the nobler sort and for the higher crimes, as high treason, while those of lesser degree were subjected to hanging, with the consequent stain thus brought on their families. Accordingly, in 1789, Guillotin carried, amidst the acclamations of the Assembly, that all crimes of the same kind should be punished in the same manner, whatever the rank of the culprit. Further, he expressed the desire that decapitation should be executed by some less uncertain and less painful mode than by means of the ordinary axe. And this is all he had to do with the invention of the celebrated instrument to which his name has been given. It was more than two years after this—viz., in 1792—that any attempt to carry the idea into practical operation was made, when a Committee of the Legislature appointed to consider the subject addressed a written consultation to the Academy of Surgery concerning it, and the reply to this fell to the province of Louis, the Secretary, who almost may be said to have constituted the Academy at that time, the object being to ascertain how decapitation could be executed with most certainty, celerity, and uniformity. Louis at once accepted the task, and not only supplied to the Assembly an elaborate account of the mode of construction of the knife, and the position in which the criminal should be placed, but had a model instrument constructed at the Bicêtre which was satisfactorily worked upon dead bodies in presence of a committee of the Assembly. Louis' proposition was submitted to the Assembly March 20, 1792, and the instrument was first employed on a man condemned for robbery on April 25. Louis died a few days before the first of the long series of political victims came under its terrible edge. Although none will doubt the excellence of the motives which induced Louis to undertake his

ungracious task and the completeness with which he accomplished what he had in view, yet M. Dubois rightly declares that the fulfilment of such a mission was no part of the duty of a surgeon, and that he ought to have rejected it. One of the apparent advantages of the instrument—the celerity of its operation—was no doubt a cause of a greater amount of blood being shed during the Revolution than would have been the case had executions been performed more slowly. Thus 21 of the Girondons were executed in 31 minutes, and at a later period 63 heads fell in 45 minutes. It is strange indeed that Guillotin's name should have become indelibly attached to an instrument with the invention of which he had nothing whatever to do, and which, as M. Dubois remarks, should rather have been termed a Louison or Louisette. The only explanation is, that his proposition in the Assembly in 1789 became the subject of ridicule by the pens of some of the Royalist writers, the word "guillotin" being found in some of the doggerel verses of the day.—*Med. Times and Gazette*, Oct. 20, 1866.

The Fatality from Fire-Damp.—A recent official return of the colliery accidents which occurred during the ten years 1856-65, shows with painful distinctness the dangers which beset coal-mining. The death-roll for the decade includes no less than 9916 individuals, of whom 2019—that is, about one-fifth—were killed by explosions of fire damp alone.

The number of male coal-miners employed in 1865, according to a computation by the inspectors of coal mines, was 315,451. The mortality from accidents amongst these miners during this year average 1 in every 321; and the raising of every 100,519 tons of coal cost, in the mean, one life. The number of collieries in work in 1865 was 3215.—*Lancet*, Jan. 5, 1867.

New Underground London.—The latest statistics of the new Metropolitan Main Drainage Works are very curious. The total length of new sewers at present completed is eighty-two miles, and the works, when finished, will have cost £4,200,000. The drainage intercepted and carried off by these sewers is derived from an area of about 117 square miles, and a population of

2,809,000. The amount of sewage carried off on the north side of the Thames amounts to 10,000,000, and on the south to 4,000,000 cubic feet. In the construction of the works 318,000,000 bricks and 880,000 cubic yards of concrete have been used, and about 3,500,000 cubic yards of earth excavated. This grand system of sewerage has been constructed under buildings, and over and under canals, rivers, and roadways, from twenty-five feet above, to seventy-five feet below, the surface, without any important casualty or interference with the public convenience or traffic. The structural arrangements of the metropolis would appear to be more wonderful and successful below the surface than above.—*Lancet*, Jan. 5, 1867.

Health of St. Thomas.—A private correspondent, writing from Jamaica, says: "The last packet from St. Thomas brings us news that yellow fever, smallpox, and cholera are all prevailing there. In fact, we have already some ten deaths of persons from St. Thomas, and the disease [yellow fever?] has made its appearance on the gunboat *Nettle*, the steward and the captain being both dead." At St. Thomas, up to eight A.M. on December 12th, the deaths from cholera had amounted to 288. The daily mortality from the epidemic for the week ending the date named was as follows: Dec. 6th, 10; 7th, 21; 8th, 15; 9th, 32; 10th, 21; 11th, 23; 12th, 29. The weather was broken and unfavourable, with cold bleak nights.—*Lancet*, Jan. 5, 1867.

University of Edinburgh.—Dr. A. Dalzell and Mr. James Dewar have been appointed assistants to Professor Playfair; Dr. Arthur Gamgee has been appointed joint assistant to Professors Christison and MacLagan; and Dr. Keiller has been appointed to act as substitute for Professor Sir James Y. Simpson, M.D., during his illness.—*Lancet*, Jan. 25, 1867.

Horsemeat.—It is said that between forty and fifty thousand pounds of this are consumed in Paris every week.

Population of Paris.—The census of 1866 shows the population of Paris to be 2,150,916.

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